

REMARKS

Applicants will address each of the Examiner's objections and rejections in the order in which they appear in the Office Action.

Specification

In the Office Action, the Examiner objected to the specification for informalities and grammatical errors therein. In response, Applicants have amended the specification in each place indicated by the Examiner in the Office Action. Applicants have also corrected each recital of "flush memory" to correctly state "flash memory."

It is respectfully submitted that no new matter is being added by any of these amendments. Accordingly, it is respectfully requested that these amendments be entered and the objections withdrawn.

Claim Objections

The Examiner also objects to Claims 7 and 43 for informalities therein. In particular, the Examiner objects to Claim 7 for a duplicative recital of a claim element. Accordingly, Applicants are amending Claim 7 to delete the recital in line 4 of "~~a first region and a second region formed in the channel forming region.~~" Applicants also have amended Claim 43 in accordance with the Examiner's suggestion.

Therefore, it is respectfully requested that these objections be withdrawn.

Claim Rejections - 35 USC §112

The Examiner also rejects Claims 5 and 45 under 35 USC §112, second paragraph, as being indefinite. While Applicants respectfully traverse this rejection, in order to advance the

prosecution of this application, Applicants are canceling Claims 5 and 45, rendering this rejection moot.

Accordingly, it is respectfully requested that this rejection be withdrawn.

Claim Rejections - 35 USC §102

Claims 7 and 10-12

The Examiner also rejects Claims 7 and 10-12 under 35 USC §102(b) as being anticipated by Tzeng (US 5,215,934). This rejection is also respectfully traversed.

While Applicants traverse this rejection, in order to advance the prosecution of this application, Applicants are amending independent Claim 7 to recite the feature of “the impurity elements are any one of P-type impurity elements and N-type impurity elements.” This is supported, for example, at page 17, lns. 28-31 (describing P type impurity doping for manufacturing an N type memory transistor), and page 20, lns. 6-10 (describing manufacturing a P type memory transistor) of the specification of the present application.

In contrast, Tzeng describes the impurity element as “non-electrically active species such as argon” (see e.g. col. 5, ln. 61 - col. 6, ln. 3 in Tzeng).

Hence, Tzeng fails to disclose or suggest this feature and the claimed device of amended independent Claim 7. Therefore, Claim 7 and those claims dependent thereon are patentable over Tzeng. Therefore, it is respectfully requested that this rejection be withdrawn.

Claims 13, 16-19, 21, 24-27 and 47-50

The Examiner also rejects Claims 13, 16-19, 21, 24-27 and 47-50 under 35 USC §102(b) as being anticipated by Uenoyama et al. (US 5,973,357). For example, with regard to independent Claims 13, 21 and 47, the Examiner asserts that “a source region” is disclosed in 31,

“a source/drain region” is disclosed in 34, and “a drain region” is disclosed in 30 of Fig. 2 of Uenoyama. This rejection is also respectfully traversed.

While Applicants traverse this rejection, in order to advance the prosecution of this application, Applicants are amending independent Claims 13, 21 and 47 to recite the feature of “each concentration of the impurity elements of the source region, the source/drain region and the drain region is the same intentionally.” Applicants believe that this feature is supported, for example, by at least Figs. 4A and 4C of the present application.

In contrast, it is clear from the description in the specification and Fig. 2 of Uenoyama that the concentration of the impurity elements of the region 31 and region 30 is different from the concentration of the impurity elements of the region 34 in Uenoyama.

Hence, Uenoyama fails to disclose or suggest the device of amended independent Claims 13, 21 and 47, and Claims 13, 21 and 47 and those claims dependent thereon are patentable over Uenoyama. Therefore, it is respectfully requested that this rejection be withdrawn.

Claim Rejections - 35 USC §103

The Examiner also rejects Claims 1, 4-6 and 43-46 under 35 USC §103(a) as being unpatentable over Kachelmeier (US 5,897,354) in view of Acovic et al. (US 5,411,905). This rejection is also respectfully traversed.

While Applicants traverse this rejection, in order to advance the prosecution of this application, Applicants are amending independent Claims 1 and 43 to recite the features of “a concentration of impurity elements in the first region is larger than a concentration of impurity elements in the second region” and “the impurity elements are any one of P-type impurity elements and N-type impurity elements.” These features are supported, for example, at page 17, lns. 28-31 (describing P type impurity doping for manufacturing an N type memory transistor),

and page 20, lns. 6-10 (describing manufacturing a P type memory transistor) of the specification of the present application.

It is respectfully submitted that the cited references fail to disclose or suggest these features, and independent Claims 1 and 43 and those claims dependent thereon are patentable over the cited references. Therefore, it is respectfully requested that this rejection be withdrawn.

Double Patenting

The Examiner also rejects Claims 7, 10-13, 16-19, 21, 24-27 and 47-50 under the judicially created doctrine of obviousness-type double patenting over claims 1-14 of US 6,621,130. This rejection is also respectfully traversed.

While this rejection is respectfully traversed, in light of the amendments made herein, it is respectfully submitted that the double patenting rejection has been overcome. Therefore, it is respectfully requested that the rejection be withdrawn.

Conclusion


Accordingly, it is respectfully submitted that the present application is in a condition for allowance and should be allowed.

If any fee should be due for this amendment, please charge our deposit account 50/1039.

Favorable reconsideration is earnestly solicited.

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Respectfully submitted,


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